



## SERIES 850

**With two programmable switching outputs, or one programmable switching output and one programmable analog output**

The NOSHOK 850 Temperature Switch measures and displays temperature and has one or two switching outputs as well as an optional analog output. The temperature set points, reset points, switching functions and the measuring range of the optional analog output are simple to adjust via two buttons. All these features and measuring range between  $-300^{\circ}\text{F}$  and  $1100^{\circ}\text{F}$  ( $-200^{\circ}\text{C}$  and  $600^{\circ}\text{C}$ ) cover the majority of temperature measuring and switching tasks. Different process connections, which are also available as adjustable screw connections, underline the versatility of the NOSHOK 850 Series. For fast response times a version with tapered stem is also available. All wetted parts as well as the housing are made of stainless steel. The housing and the replaceable measuring insert are screwed together. This allows the exchange of the measuring insert without opening the connection to the process.

### FEATURES

- Compact dimensions
- Simple handling
- Cost effective
- Service-friendly
- Customized solutions

### APPLICATIONS

- Mechanical engineering
- Heating and cooling circuits
- Air conditioning technology
- Plant construction
- Environmental technology

### TEMPERATURE RANGES

- 50 to  $+400^{\circ}\text{F}$
- 50 to  $+1100^{\circ}\text{F}$
- 50 to  $+750^{\circ}\text{F}$
- 300 to  $+1100^{\circ}\text{F}$

### SPECIFICATIONS

|   |   |
|---|---|
| <b>Temperature Ranges</b>                           | Standard ranges from $-300^{\circ}\text{F}$ to $1100^{\circ}\text{F}$ ( $-200^{\circ}\text{C}$ to $600^{\circ}\text{C}$ )<br>Selectable display for $^{\circ}\text{F}$ or $^{\circ}\text{C}$  |
| <b>Temperature Sensor</b>                           | Platinum resistor (PT100 2-Wire, ClassB)  |
| <b>Wetted Materials</b>                             | 316Ti Stainless steel   |
| <b>Housing Material</b>                             | Stainless steel   |
| <b>Working Pressure</b>                             | 6 mm Stem Diameter; 600 psi<br>8 mm Stem Diameter; 1500 psi   |
| <b>Power Supply</b>                                 | 12 Vdc to 30 Vdc, unregulated   |
| <b>Power Consumption</b>                            | $\leq 50$ mA, without load  |
| <b>Signal Output</b>                                | 4 mA to 20 mA Scaleable from 20-100% of range   |
| <b>Switch Points Number Function Adjustment</b>     | Individually adjustable via external control keys<br>1 or 2 (PNP)<br>NO / NC; windows-and hysteresis function freely adjustable<br>Set point: $0.1^{\circ}$ steps within temperature range<br>Reset point: $0.1^{\circ}$ steps from beginning temperature range until (set point $-0.1^{\circ}$ ) |
| <b>Switch Rating</b>                                | 100 mA per switch   |
| <b>Electrical Connection</b>                        | M12 x 1 (4-Pin)   |
| <b>Accuracy</b>                                     | Class B $+0.1\%$ of the temperature range   |
| <b>Display</b>                                      | 7 Segment-LED, red 4-digit, height $0.3''$  |
| <b>Temperature Ranges Storage Ambient Influence</b> | $-22^{\circ}\text{F}$ to $176^{\circ}\text{F}$ ( $-30^{\circ}\text{C}$ to $80^{\circ}\text{C}$ )<br>$-13^{\circ}\text{F}$ to $158^{\circ}\text{F}$ ( $-25^{\circ}\text{C}$ to $70^{\circ}\text{C}$ )<br>$\pm 0.006\%$ of measuring range per $^{\circ}\text{F}$                                   |
| <b>Environmental Protection</b>                     | NEMA 4; IP65 (IEC 529)  |
| <b>Weight</b>                                       | 0.66 lbs. depending on stem length  |

| ORDERING INFORMATION          |                   |  |                                   |               |
|-------------------------------|-------------------|--|-----------------------------------|---------------|
| <b>SERIES 850</b>             |                   |  |                                   |               |
| <b>SWITCH FUNCTION</b>        | <b>1</b>          | 2 N.O. or N.C. Switch-PNP                                    |                                   |               |
|                               | <b>2</b>          | 1 N.O. or N.C. Switch-PNP (with 4 mA to 20 mA Analog Output) |                                   |               |
| <b>PROCESS CONNECTIONS</b>    | <b>2</b>          | 1/4" NPT Male  | <b>8</b>                          | 1/2" NPT Male |
| <b>TEMPERATURE RANGES</b>     |                   | -50°F to 400°F <b>-50/400</b>                                | -50°F to 1100°F <b>-50/1100</b>   |               |
|                               |                   | -50°F to 750°F <b>-50/750</b>                                | -300°F to 1100°F <b>-300/1100</b> |               |
| <b>ELECTRICAL CONNECTIONS</b> | 2 M12 x 1 (4-PIN) |  |                                   |               |
| <b>STEM LENGTH</b>            | <b>025</b>        | 2.5 inch   | <b>060</b>                        | 6 inch        |
|                               | <b>040</b>        | 4 inch   | <b>090</b>                        | 9 inch        |
| <b>STEM DIAMETER</b>          | <b>3</b>          | Tapered from 6mm - 3mm tip                                   | <b>6</b>                          | 6mm           |
|                               |                   |  | <b>8</b>                          | 8mm           |

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

**EXAMPLE**

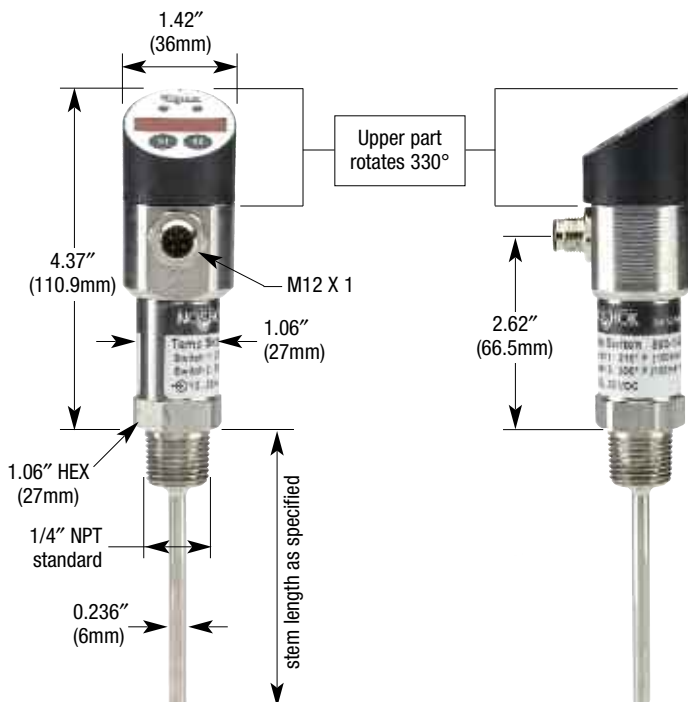
Series .....850  
 Switch Function .....2 N.O. or N.C. -pnp  
 Process Connection .....1/4" NPT male  
 Temperature Range .....50°F to 400°F  
 Electrical Connection .....M12 x 1 (4-pin)  
 Stem Length .....2.5"  
 Stem Diameter .....6mm

**850 - 1 - 2 - 50/400 - 2 - 025 - 6**



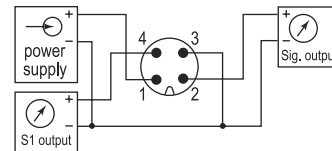
Additional Ordering Information Switch Set Point(s) (please specify)

**Outline Dimensions**



**Wiring Diagrams**

**1 switching output (M12 x 1)  
with 4mA to 20 mA Signal  
p-switching**



**2 switching output (M12 x 1)  
p-switching**

